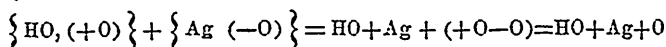
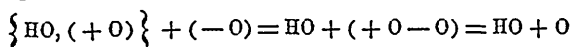


CHEMICAL SCIENTIFIC INTELLIGENCE.

Schonbein has advanced the opinion that oxygen exists in three states ;—

1st. As ordinary, comparatively inactive, or neutral oxygen ; 2nd. as ozone, negative oxygen,—O ; and 3rd. as what he has termed antozone, positive oxygen,+O ; and further that from the mutual action of the two last mentioned modifications of oxygen ordinary oxygen proceeds. He supposes that oxygen exists in the form of ozone in the oxides of silver and gold, and in several of the peroxides, as manganese, lead, &c., as well as in some other oxygen compounds ; but that it is antozone which unites with protoxides of hydrogen, barium, &c., to form their peroxides. Thus he explains the facts that ozone eliminates inactive oxygen from peroxide of hydrogen, and that oxide of silver and peroxide of hydrogen decompose each other upon contact, suggesting that double decomposition takes place in either case according to the equations.



One objection to this hypothesis hitherto has been that antozone is as yet merely hypothetical. But Schonbein now announces that he has isolated this form of oxygen by acting upon peroxide of barium with monohydrated sulphuric acid, a gas being liberated which smells like ozone and turns the ozone test-paper blue, but which differs from that substance by its power of forming with water peroxide of hydrogen. He also announces that large quantities of this gas, about $\frac{1}{3000}$ th, exist ready formed in a dark blue species of fluor spar found at Wulsendorf and long distinguished by its disagreeable smell. When this substance is triturated under water large quantities of peroxide of hydrogen are immediately formed. In further support of his view he affirms that whenever in the slow oxidation of phosphorous ozone appears, corresponding amounts of peroxide of hydrogen are simultaneously formed ; and that other slowly oxidizing substances, as zinc, have the same power of decomposing, so to say, oxygen into ozone and antozone. His views are worthy of attentive consideration, not merely because a class of reactions otherwise inexplicable is explained, but because of their accordance with certain views respecting the nature of elementary molecules rendered ne-